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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,219	11/10/2000	Makoto Tanaka	09952-051001/54756-US-KK/	4727

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EXAMINER

PIZARRO, RICARDO M

ART UNIT PAPER NUMBER

2661

DATE MAILED: 04/29/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/710,219

Applicant(s)

TANAKA ET AL.

Examiner

Ricardo M. Pizarro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 15-19 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8 and 10 is/are rejected.
- 7) ☒ Claim(s) 2,5-7 and 11-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 7,14,11, 12 are objected to because of the following informalities:

In claim 7 line 11 delete the second occurrence of “the”. Appropriate correction is required.

In claim 11 line 1 delete “further”.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. In lines 2-3 “the sector notifying means notifies a number indicative of a sector of the location of the terminal stations” is not understood and not known what the term is referring to.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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Claim 3 is rejected under 35 U.S.C. 102(a) as being anticipated by Kamerman.

US patent No. 6,067,291 (Kamerman et al) discloses a CSMA wireless LAN comprising a plurality of antenna elements forming a **communication area comprised of a plurality** of sectors (antenna elements 20 in Fig.2) ; terminal station identifier means for determining whether there are at least two transmitting terminal stations in response to signal receptions by the plurality of antenna elements (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); and sector notifying means for notifying at least one of the determined transmitting terminal stations of sector information about the location of the terminal stations when it is determined by the terminal station identifier means that there are at least two terminal stations (distances at which carrier detect threshold level line crosses the carrier signal level curve determines boundaries, col 4 lines 63-67), as in claim 3.

6. Claim 8 is rejected under 35 U.S.C. 102(a) as being anticipated by Kamerman.

US patent No. 6,067,291 (Kamerman et al) discloses a CSMA wireless LAN comprising A CSMA wireless LAN comprising a plurality of antenna elements (antenna elements 20 in Fig.2) forming a communication area comprised of a plurality of sectors (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); terminal station identifier means for determining whether there are other transmitting terminal stations at the time of transmission from one terminal station in response to receptions by the plurality of **antenna elements** (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); **sector notifying means**

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for notifying the other terminal stations of the sector location of the other terminal stations when it is determined by the terminal station identifier means that there are other terminal stations (distances at which carrier detect threshold level line crosses the carrier signal level curve determines boundaries, col 4 lines 63-67, i.e. location), as in claim 8.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 4 , 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamerman.

US patent No. 6,067,291 (Kamerman et al) discloses a Wireless Local Area network with enhanced carrier sense provision comprising a CSMA wireless LAN (col 3 line 49) comprising antenna means (antenna elements 20 in Fig.2) , terminal station identifier means for determining whether there are at least two transmitting terminal stations in response to signal receptions by the antenna means (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); and power notifying means for notifying at least one of the determined transmitting terminal stations to vary transmitting power (Carrier detect threshold 70 in Fig. 2) when it is determined by the terminal station identifier means that there are at least two *transmitting terminal* stations

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(if it is determined that at least two stations are transmitting one station will defer transmission), as in claim 1; wherein the sector notifying means notifies a number indicative of a sector of the location of terminal stations for the sector location of the transmitting terminal stations (col 8 lines 3-8), as in claim 4.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the Kamerman reference did not specifically disclose increasing power transmission but due to its threshold capability it would have been obvious that power could have been increased as needed as in claim 1 and 10, with the motivation of providing a wireless local area network with enhanced carrier sense provision yet capable of providing a substantially high co-channel medium reuse.

9. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamerman in view of Yoneda.

US patent No. 6,067,291 (Kamerman et al) discloses a Wireless Local Area network with enhanced carrier sense provision comprising a CSMA wireless LAN (col 3 line 49) further comprising **a terminal station having sector information notified** from the sector notifying means (distances at which carrier detect threshold level line crosses the carrier signal level curve determines boundaries, col 4 lines 63-67),, as in claim 11.

Kamerman did not disclose calculating an orientation of a hidden terminal station in response to sector information in order to set a directivity to the calculated direction of a hidden terminal station, as in claim 11; wherein the terminal station has a plurality of antenna elements for forming a transmission beam directed toward the calculated direction of the hidden terminal station, each antenna element outputting a non-directional radio wave beam, as in claim 12. US patent no. 5,852,405 (Yoneda et al)

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discloses a Wireless Lan System, comprising calculating an orientation of a hidden terminal station in response to the notified sector information in order to set a directivity to the calculated direction of the hidden terminal station((station antennas are constructed to have directivity and be adjusted, col 5 lines 55-58, col 8 lines 64-67, col 9 lines 1-3, col 10 lines 5-12), as in claim 11; wherein the terminal station has a plurality of antenna elements for forming a transmission beam directed toward the calculated direction of the hidden terminal station, each antenna element outputting a non-directional radio wave beam (col 5 lines 59-63), as in claim 12.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the antenna adjusting means as disclosed by Yoneda to the system disclosed by Kamerman with the motivation of obtaining a CSMA wireless system wherein the problem of hidden terminal will not occur.

Allowable Subject Matter

10. Claims 9, 15, 16, 17, 18 and 19 are allowed.

11. Claims 2, 5-6, 13, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

Claims 7 and 14, 11 and 12 would be allowable if amended to overcome objection to claims under 37 CFR 1.75.

Conclusion

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

(for formal communications intended for entry, for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ricardo Pizarro** whose telephone number is (703) 305-1121. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM. The fax number for this Group is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Douglas Olms**, can be reached on (703) 305-4703.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

April 27, 2004

Ricardo M. Pizarro

Douglas W. Olms
DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
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